

Stephens Memorial Hospital)
Oxford County)
Norway, Maine)
A-63-71-F-A/R)

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Stephens Memorial Hospital of Norway, Maine has applied to renew their Air Emission License, permitting the operation of emission sources associated with their health care facility.

Included in this renewal is the addition of one new boiler and one new emergency generator to meet the needs of the facility expansion.

B. Emission Equipment

Stephens Memorial Hospital is authorized to operate the following air emission units:

Fuel Burning Equipment

<u>Equipment</u>	<u>Date of Construction</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, %Sulfur</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Stack #</u>
Boiler #1	1966	2.25	#2, 0.35%	16.1	1A
Boiler #2	1966	2.25	#2, 0.35%	16.1	1A
Boiler #3	1977	3.4	#2, 0.35%	24.3	2A
Boiler #4	1977	3.4	#2, 0.35%	24.3	2A
Boiler #5	1977	1.4	#2, 0.35%	10.0	2A
Ripley Boiler #6	1995	2.8	#2, 0.35%	19.6	3A
Boiler #7	2003	1.82	#2, 0.35%	13.0	4A

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Emergency Diesel Generators

<u>Equipment</u>	<u>Maximum Capacity</u> <u>(MMBtu/hr)</u>	<u>Fuel Type,</u> <u>% Sulfur</u>	<u>Maximum Firing Rate</u> <u>(gal/hr)</u>
Generator 1	2.1	diesel, 0.05%	14.8
Generator 2	2.0	#2 fuel oil, 0.35%	13.9

C. Application Classification

The application for Stephens Memorial Hospital includes the installation of new equipment and increased emissions, therefore the license is considered to be a renewal and a minor modification.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Existing Boilers

Boilers #1 and #2 each have a heat input capacity of 2.25 MMBtu/hr and fire #2 fuel oil with a maximum sulfur content of 0.35%. Each boiler was manufactured in 1966 and are therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Boilers #3 and #4 each have a heat input capacity of 3.4 MMBtu/hr and fire #2 fuel oil with a maximum sulfur content of 0.35%. Each boiler was manufactured in 1977 and are therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Boiler #5 has a heat input capacity of 1.4 MMBtu/hr and fires #2 fuel oil with a maximum sulfur content of 0.35%. It was manufactured in 1977, has a heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Ripley Boiler #6 has a heat input capacity of 2.8 MMBtu/hr and fires #2 fuel oil with a maximum sulfur content of 0.35%. It was manufactured in 1995, has a

heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

BPT for the existing boilers is the following:

- Use of 0.35% sulfur #2 fuel oil.
- SO₂, NO_x, CO and VOC emission data for #2 fuel oil combustion was taken from AP-42 dated 9/98 for boilers smaller than 100 MMBtu/hr.
- Emission rates for PM and PM₁₀ when firing #2 fuel oil are based on MEDEP Chapter 103 requirements.
- Visible emissions from Stack 1A (Boilers #1 and #2), Stack 2A (Boilers #3, #4 and #5) and Stack 3A shall each not exceed an opacity of 20 percent on a six (6) minute block average basis.

C. New Boiler #7

New Boiler #7 has a heat input capacity of 1.82 MMBtu/hr and fires #2 fuel oil with a maximum sulfur content of 0.35%. It was manufactured in 2002, has a heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

BACT for New Boiler #7 is the following:

- Use of 0.35% sulfur #2 fuel oil.
- SO₂, NO_x, CO and VOC emission data for #2 fuel oil combustion was taken from AP-42 dated 9/98 for boilers smaller than 100 MMBtu/hr.
- Emission rates for PM and PM₁₀ when firing #2 fuel oil are based on BACT of 0.08 lb/MMBtu.
- Visible emissions from Stack 4A shall not exceed an opacity of 20 percent on a six (6) minute block average basis.

D. Definition of “Emergency”

Per MEDEP Chapter 100, the definition of emergency for Chapter 115 purposes is the following:

“... any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology based emission limitation under the license, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.”

Therefore, by definition, a diesel used for load shedding purposes (also known as a “Dispatchable Load Generators”) is not considered an “Emergency Generator”.

E. Existing Generator #1

BPT for the existing emergency generator is the following:

1. MEDEP Chapter 106 regulates fuel sulfur content, however the use of 0.05% sulfur by weight fuel is BPT.
2. PM, PM₁₀, NO_x, CO and VOC emission rates were based upon AP-42 data dated 10/96 for diesel engines smaller than 600 hp.
3. An operational limit of 500 hours per year for each generator.
4. Opacity from each diesel engine shall not exceed 20% on a six- (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

F. New Generator #2

Due to piping configurations and costs, Generator #2 will burn #2 fuel oil from the existing underground storage tank used for the boilers.

BACT for the new generator is the following:

1. MEDEP Chapter 106 regulates fuel sulfur content, however the use of 0.35% sulfur by weight fuel is BACT in this instance.
2. PM, PM₁₀, NO_x, CO and VOC emission rates were based upon AP-42 data dated 10/96 for diesel engines smaller than 600 hp.
3. An operational limit of 500 hours per year for each generator.
4. Opacity from each diesel engine shall not exceed 20% on a six- (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

G. Facility Emissions and Fuel Use Caps

Stephens Memorial Hospital is limited to the following fuel usage and has the following annual emissions, based on a 12 month rolling total:

- Boilers 1, 2, 3, 4, 5, 6 and 7 combined #2 fuel oil use of 300,000 gallons per year, with a sulfur content of 0.35% maximum.
- 500 hours of operation per year per emergency generator

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Total Allowable Annual Emissions for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/year</u>
PM	2.8
PM ₁₀	2.8
SO ₂	7.6
NO _x	7.5
CO	1.7
VOC	0.4

IV. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by-case basis. Based on the above total facility emissions, Stephens Memorial Hospital is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-63-71-F-A/R, subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.

- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 MRSA §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records, to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- a. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.
 - b. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - c. submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- a. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - b. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - c. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (16) Boilers
A. Boilers shall be limited to the following emission rates:

Boilers 1 and 2 Emission Limits (each)

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.27
PM ₁₀	0.27
SO ₂	0.79
NO _x	0.32
CO	0.08
VOC	0.01

Boilers 3 and 4 Emission Limits (each)

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.41
PM ₁₀	0.41
SO ₂	1.20
NO _x	0.49
CO	0.12
VOC	0.01

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Boiler 5 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.17
PM ₁₀	0.17
SO ₂	0.49
NO _x	0.20
CO	0.05
VOC	0.01

Ripley Boiler 6 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.34
PM ₁₀	0.34
SO ₂	0.99
NO _x	0.40
CO	0.10
VOC	0.01

Boiler 7 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.15
PM ₁₀	0.15
SO ₂	0.64
NO _x	0.26
CO	0.06
VOC	0.01

- B. Boilers 1, 2, 3, 4, 5, 6 and 7 combined fuel use shall not exceed 300,000 gallons/year of #2 fuel oil, based on a 12 month rolling total. The sulfur content of the #2 fuel oil shall not exceed 0.35%. Fuel use records shall be maintained on a 12-month rolling total and include fuel percent sulfur.
- C. Visible emissions from Stack 1A (Boilers #1 and #2 common stack), Stack 2A (Boilers 3, 4 and 5 common stack), Stack 3A (Boiler #6) and Stack 4A (Boiler #7) shall each not exceed an opacity of 20 percent on a six (6) minute block average basis.

(17) Emergency Diesel Units

- A. Emissions from Generator 1 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.65
PM ₁₀	0.65
SO ₂	0.11
NO _x	9.26
CO	2.00
VOC	0.76

- B. Emissions from Generator 2 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.62
PM ₁₀	0.62
SO ₂	0.71
NO _x	8.82
CO	1.90
VOC	0.72

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- C. Generator 1 and 2 each shall be limited to 500 hours per year of operation, based on a 12 month rolling total. An hour meter shall be maintained and operated on each emergency diesel generator.
 - D. The sulfur content of the fuel for Generator #1 shall be less than or equal to 0.05% by weight, demonstrated by fuel receipts from the supplier.
 - E. The sulfur content of the fuel for Generator #2 shall be less than or equal to 0.35% by weight, demonstrated by fuel receipts from the supplier.
 - F. A log documenting the dates, times and reasons for operation for each generator shall be kept.
 - G. Visible emissions from each emergency generator shall not exceed 20% opacity on a six-(6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.
- (18) Stephens Memorial Hospital shall pay the annual air emission license fee within 30 days of **October 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.
- (19) The term of this order shall be for five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
BROOKE E.BARNES, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 18, 2002

Date of application acceptance: December 6, 2002

Date filed with Board of Environmental Protection: _____

This order prepared by Mark E. Roberts, Bureau of Air Quality